

Outcomes of prolonged intermittent renal replacement therapy combined with hemoperfusion among patients aged <18 years old with severe dengue in a tertiary hospital: A retrospective cohort study

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Statement of the problem: In the Philippines, management of Severe Dengue (SD) is quite challenging despite of intensive care especially if patients developed significant Fluid Overload (FO) thus requiring Renal Replacement Therapy (RRT). Hence this study aimed to determine the outcomes of Prolonged Intermittent Renal Replacement Therapy (PIRRT) plus Hemo-Perfusion (HP) in treating SD among pediatric patients.

Methodology: This retrospective cohort study was conducted at the Hemodialysis Unit to all pediatric patients with SD according to WHO definition who underwent PIRRT + HP from June 2018 to January 2020. Among 357 SD patients, only 27 were included in the study. The primary outcome measure was 28-day all-cause mortality, adjusted for Body Mass Index (BMI), Fluid Overload (FO), baseline kidney function (eGFR) and Vasopressor Dependency (VD) using regression analysis. Secondary outcomes were as follows: average length of PICU stay, hospital day, day on ventilation, hemodynamic tolerability and change in % fluid overload.

Findings: Baseline demographic and clinical characteristics were not significantly different between two groups except in PIRTT group noted higher % FO at initiation of RRT ($p=0.05$) and obesity and overweight was higher in PIRRT+HP group ($p=0.01$) (Table 1). There were no significant differences in 28-day mortality ($p=0.40$) and secondary outcomes between two groups (p values >0.05) Using univariate and multivariate analysis, the following variables: BMI, FO, eGFR and VD were not significantly associated with mortality.

Conclusion: In this study, hemoperfusion was found to be comparable with PIRRT alone in terms of hemodynamic tolerability in SD patients however no significant difference in mortality after two treatment sessions although HP showed an increase in survival percentage (44.4% vs. 22.2%) which might have clinical impact. Timing of initiation of RRT and number of subsequent HP sessions might be considered in future prospective studies.

Biography

Giezebel H. Arago is a Diplomate of Pediatric Nephrology Society of the Philippines. She has attained the Degree of Doctor Medicine in the University of Santo Tomas, Manila, Philippines in 2012. She had her Pediatric Residency Training in Mandaluyong City Medical Center (MCMC), Mandaluyong, Philippines. She finished fellowship training in Pediatric Nephrology at Philippine Children's Medical Center, Quezon City, Metro Manila, Philippines. From her experiences gained in her trainings, she aspires to continue to deliver great and outstanding pediatric nephrology care in her country.

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